

(e) controlling internal pressure of the loading chamber at a level between sublimation pressure of XeF₂ and atmospheric pressure to prevent sublimation of residual XeF₂ in the loading chamber.

Cancel Claims 10 and 14.

REMARKS

The Office Action dated August 28, 2002 has been fully considered by the Applicant. In connection therewith, independent Claims 8 and 12 have been amended to clearly convey the invention.

The rejection of Claims 8 and 12 under 35 U.S.C. §103(a) as unpatentable over Patel et al. (U.S. Patent No. 6,290,864) in view of Cannella (U.S. Patent No. 4,889,609) and the rejection of Claim 11 under 35 U.S.C. §103 as unpatentable over Patel et al. (U.S. Patent No. 6,290,864) in view of Sinha et al. (U.S. Patent No. 6,123,765) is respectfully traversed. Applicant will submit a declaration under 37 CFR 1.131 confirming that the present invention was completed before the filing date of Patel et al. patent on October 26, 1999. In particular, Applicant will show that the present invention was completed as early as July 12, 1999 and will support its position by submission of pending Korean Patent Application No. 101999-0001002 (cover sheet submitted herewith). Accordingly, the reliance on Patel et al. (Patent No. 6,290,864) should be removed. In summary, Claims 8, 11 and 12 are believed to be allowable.

Moreover, Cannella discloses a continuous etching apparatus comprising a transmittance means for the substrate to be etched. Therefore, the invention of Cannella is different from the present

invention regarding preventing formation of HF. Especially, it is apparent that Canella does not recognize the problem of HF formation since Canella discloses an etching process using plasma (thus, the etching chamber according to Canella has electrodes).

The process of injection of inert gas before etching is described in Canella. However, this process is to prevent disassociated active species in the etching chamber from entering substrate-loading chamber or substrate-unloading chamber, or to eliminate the ambient atmosphere in order to prevent the contamination of etching chamber.

Therefore, this process is a method for elimination of air (in order) to prevent the contamination during transmitting of substrate, which is different from the step of elimination of moisture in the present invention. In the present invention, the moisture is eliminated and thus the formation of HF is prevented. By the step of elimination of moisture, the selectivity of silicon in the silicon oxide layer is raised to 1:2000 or more, and the damage of shape protection layer diminishes. Thus, it is possible to proceed with the etching process in a uniform thickness of protection layer for a long time.

The above-described constituent and effect of the present invention are not disclosed either in Canella or in any other cited reference at all.

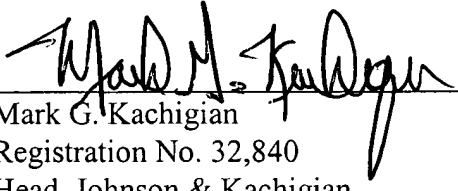
Further, as an example of the inert gas, only Ar is mentioned in Canella. Considering that the inert gas generally refers to zero (0) group element such as Ne, Ar, etc., Canella is different from the present invention wherein N_2 is used.

The rejection of Claims 8 through 10 and 12 through 14 under 35 U.S.C. §103(a) as unpatentable over McQuarrie et al. in view of Cannella is respectfully traversed.

As set forth above, Canella does not disclose the limitations of the present invention.

For all the foregoing reasons, it is believed the application is now in condition for allowance and such action is earnestly solicited.

Respectfully submitted,



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